

## D300 & D310 Series UV Food Grade Dry Litho Ink

Code Ref: D300 & D310

technical information and application instructions

### 300 Series – Non-varnishable

### 310 Series – Varnishable

<b>Substrates</b>	Properly treated polyethylene (HDPE) and polypropylene (PP) containers.
<b>End Uses</b>	Formulated in accordance with the Nestle-Guidance note on packaging inks, dated 22/4/2010 to give low odour, low migration inks for exterior printing of foodstuff (e.g. Yoghurt & Dairy Cups, Margarine Tubs) and pharmaceutical containers.  Also suitable for Cosmetics, hair products, paints, adhesives, chemical, and specialty product container packaging.

### Product Information

The 300 Series is a 100% solids UV-curable printing ink designed for high-speed Dry offset printing of treated polyethylene/polypropylene containers.

**All inks are formulated in accordance with Nestle - Guidance note on packaging inks, dated 22/4/2010 and subsequent versions. It is the responsibility of the converter to test for migration before the first application and ensure that the inks comply with the migration specific limits.**

Properly cured, these inks will exhibit excellent adhesion, as well as superior resistance to solvents, chemicals, and other products.

The 300 Series printing ink exhibits a high gloss finish in all colours. This ink is intended to work well straight from the container on a wide range of today's Dry offset printing equipment with very low misting and intense colour strength and low dot gain.

### General Guidelines

<b>Ink Handling</b>	Direct contact with the skin is the primary route of exposure and irritation with UV inks. Therefore, it is recommended that all personnel mixing and handling these products wear gloves and barrier cream to prevent direct skin contact. Safety glasses are suggested in areas where ink may be splashed. If ink does come into contact with skin, wipe ink off with a clean, dry absorbent cloth ( <b>DO NOT USE SOLVENT OR REDUCER</b> ). Proceed to wash and rinse the affected area with soap and water. Consult the D300 MSDS for further instructions and warnings.
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<b>Printing</b>	Pre-testing and proofing of colours is recommended to determine suitability to substrate and printing conditions. In accordance with current regulations, the D300 Series of inks are fully capable of meeting all applicable safety requirements for incidental food contact applications.
<b>Adhesion Testing</b>	<p>Even when recommended UV energy output levels are achieved, it is imperative to check adhesion on a cooled down print by checking:</p> <ol style="list-style-type: none"><li>1. <b>Touch of ink surface</b> – The D300/D310 ink will be smooth and slick.</li><li>2. <b>Thumb twist</b> – The ink surface will not mar or smudge.</li><li>3. <b>Scratch surface</b> – The D300/D310 ink will resist scratching when cool.</li><li>4. <b>Cross hatch tape test</b> – – Use a cross hatch tool, or a sharp knife to cut through ink film only, apply 3M #600 clear tape on a cut area, rub down and rip off. Ink should only come off in actual cut areas.</li></ol> <p>Full adhesion characteristics will be demonstrated within 8 hours after cure.</p>
<b>Colour Availability</b>	These inks are normally matched by GL to customers' requirements, Single pigment base colours can be supplied for customers own matching of colours. Lightfast inks are available on request.
<b>Cure Parameters</b>	<p>The 300/310 Series Inks are formulated to cure at typical modern production speeds of 20 – 35 x 20litre containers or 30 – 50 x 5 litre containers or 300 Yoghurt cups per minute with properly maintained automatic equipment.</p> <p><b>Millijoules:</b> radiometer readings in Millijoules represent the total amount of UV energy arriving on the surface. In container printing, the total amount of energy the ink and the container is exposed to depends on the number of bottle rotations under the curing unit. A minimum of 300 Millijoules may be necessary to cure certain colours.</p> <p><b>Milliwatts:</b> The radiometer readings in Milliwatts represent the penetrating power of the UV energy arriving at the surface. A minimum of 600 Milliwatts may be necessary for through cure.</p> <p><b>Milliwatt &amp; Millijoule</b> readings done using an EIT – Microcure Data Reader</p> <p>Due to the fast cure speeds of the D300/D310 Series, care should be taken during printing to minimize unwanted ultraviolet light exposure to the screen. Be aware of skylights, windows, and overhead lights possibly curing the ink in the screen. Precautions include the use of light filters that block out the damaging wavelengths.</p> <p>If ink is left on the press while not printing (lunch breaks etc.) it is advisable to cover exposed ink with black plastic sheeting.</p>
<b>Reducer</b>	D564-S159. UV Dry Litho FG Reducer to reduce tack and viscosity if required.
<b>Wash-up</b>	D574-S051. UV VAN DAMM Mild Wash-up.

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## Storage

These inks are reactive to light and temperature extremes. Store in a clean area below 35°C sealed tightly in dark plastic containers out of direct sunlight. For maximum shelf life, store ink in ambient temperatures of 15°C to 30°C. Ink taken from the press should not be returned to the original container; store separately to avoid contaminating unused ink.

Shelf life of sealed bucket is 1 years. Has potential to solidify once opened and exposed to light.

## caution

Please proof this ink, reduced to the consistency you wish to adopt, on a sample of the ACTUAL SUBSTRATE you will be printing BEFORE starting a production run.

Give the proof 4 hours to post cure then check for: Abrasion resistance, adhesion, print appearance and correctness of colour. The adequacy of this ink in these properties cannot be fully established on laboratory equipment on a small scale.

Based on information from our raw material suppliers, these products are formulated to contain less than 0.06% lead. If exact heavy metal content is required, independent lab analysis is recommended.

*GL stands behind the quality of this product. GL cannot, however, guarantee the finished results because GL exercises no control over individual operating conditions and production procedures. While technical information and advice on the use of this product is provided in good faith, the User bears sole responsibility for selecting the appropriate product for their end-use requirements. Users are also responsible for testing to determine that our product will perform as expected during the printed item's entire life cycle from printing, post-print processing, and shipment to end-use. This product has been specially formulated for screen printing, and it has not been tested for application by any other method. Any liability associated with the use of this product is limited to the value of the product purchased from GL.*

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Last date amended: 6 February 2023